

Balanced Scorecard, Customer/Product Profitability Analysis, and Business Combinations

Balanced Scorecard and Goals

Overview

The **Balanced Scorecard** is a strategic performance management tool that integrates financial and non-financial measures to align organizational activities with its vision and strategy. It provides a comprehensive framework for evaluating performance across multiple dimensions.

- **Definition:** A framework that translates an organization's strategic objectives into measurable performance indicators across four perspectives: Financial, Customer, Internal Process, and Learning and Growth.
- **Purpose:**
 - Aligns operations with strategic goals.
 - Balances short-term financial objectives with long-term drivers of success.
 - Provides actionable feedback for performance improvement.
- **Key Feature:** Links performance metrics to the organization's **vision and strategy**, ensuring holistic evaluation.

Strategy Map

A **strategy map** visually represents the cause-and-effect relationships between objectives across the four perspectives, illustrating how improvements in one area drive outcomes in others.

Financial Perspective

Focuses on financial outcomes that reflect shareholder value and organizational success.

- **Goals:**
 - **Increase Sales Revenue:** Drive top-line growth through higher sales volume or pricing.
 - **Increase Job Profitability:** Improve margins by reducing costs or optimizing pricing.
- **Metrics:** Revenue growth rate, gross margin, return on investment (ROI).

Customer Perspective

Emphasizes customer satisfaction and market position to drive financial results.

- **Goals:**
 - **Increase Number of Customers:** Expand customer base through marketing or new offerings.
 - **Increase Number of Sales:** Boost repeat purchases or cross-selling.
- **Metrics:** Customer retention rate, net promoter score (NPS), sales per customer.

Internal Process Perspective

Focuses on operational efficiency and processes that deliver value to customers and drive financial performance.

- **Goals:**
 - **Increase Choice of Materials:** Enhance product offerings through diverse or high-quality materials.
 - **Reduce Cost of Materials:** Optimize procurement to lower input costs.
 - **Reduce Direct Labor Cost:** Improve labor efficiency or automate processes.
 - **Increase Maximum Object:** Unclear in the document; likely refers to maximizing output or product features.
 - **Improve Quote Turnaround Time:** Speed up response to customer inquiries.
 - **Reduce Defects:** Enhance quality control to minimize errors.
 - **Improve Order Turnaround Time:** Accelerate order fulfillment.
 - **Enhance Website/Online Ordering:** Improve digital platforms for customer convenience.
- **Metrics:** Material cost variance, defect rate, cycle time, order fulfillment time.

Learning and Growth Perspective

Focuses on human capital, technology, and organizational capabilities to support internal processes.

- **Goals:**
 - **Improve Information Available to Customer Service Personnel:** Enhance access to customer data or product details.
 - **Improve Customer Service Personnel's Knowledge:** Train staff for better service delivery.
 - **Improve Telephone Access:** Enhance customer support accessibility.
- **Metrics:** Employee training hours, system uptime, customer service response time.

Strategy Map Example

- **Learning and Growth:** Improved training and systems enhance employee knowledge and customer service efficiency.
- **Internal Process:** Efficient processes reduce defects, material costs, and turnaround times, improving customer satisfaction.
- **Customer:** Higher satisfaction increases customer retention and sales volume.
- **Financial:** Increased sales and reduced costs drive revenue and profitability.

Difficulties of Balanced Scorecard Implementation

1. **Complexity in Design:**

- Defining relevant metrics and aligning them with strategy is time-consuming and requires cross-functional collaboration.

2. Data Collection and Accuracy:

- Non-financial metrics (e.g., customer satisfaction) are harder to measure accurately than financial metrics.

3. Balancing Metrics:

- Overemphasizing one perspective (e.g., financial) can undermine others (e.g., learning and growth).

4. Resistance to Change:

- Employees and managers may resist adopting new performance measures, especially if tied to compensation.

5. Cost and Resource Intensity:

- Implementing and maintaining the Balanced Scorecard requires significant time, technology, and training investments.

6. Causality Assumptions:

- Assumed cause-and-effect relationships (e.g., training improves customer satisfaction) may not always hold, leading to misaligned strategies.

Customer Profitability Analysis

- **Definition:** Analyzes the profitability of individual customers or customer segments by comparing revenues generated to costs incurred (e.g., product costs, service costs, marketing).
- **Purpose:**
 - Identify high-value customers to prioritize.
 - Detect unprofitable customers for repricing, cost reduction, or termination of relationships.
 - Optimize resource allocation in sales and service efforts.
- **Methodology:**
 - **Revenue:** Sales revenue from the customer.
 - **Costs:** Direct costs (e.g., product costs), allocated costs (e.g., delivery, support), and activity-based costing (ABC) for accuracy.
 - **Profitability:** Revenue minus total costs per customer.
- **Example:** A customer generating \$10,000 in revenue but incurring \$12,000 in costs (e.g., frequent returns, high support demands) is unprofitable and may require repricing or revised service terms.

Product Profitability Analysis

- **Definition:** Evaluates the financial performance of individual products or services to determine their contribution to overall profitability.
- **Purpose:**
 - Identify unprofitable products for repricing or discontinuation.
 - Optimize product mix to focus on high-margin items.
 - Support pricing and cost control strategies.
- **Methodology:**
 - **Revenue:** Sales revenue per product.
 - **Costs:** Direct costs (materials, labor), allocated overhead (using ABC for accuracy).
 - **Contribution Margin:** Revenue minus variable costs.
 - **Net Profit:** Contribution margin minus allocated fixed costs.
- **Example:** A product with a \$50 selling price, \$30 variable cost, and \$15 allocated fixed cost has a contribution margin of \$20 and a net profit of \$5. If unprofitable, consider repricing or discontinuation.

Business Combinations and Consolidations: Example Problem

Problem

Scenario: On January 1, 2025, Parent Co. acquires 100% of Sub Co. for \$75,000,000 in cash to expand into the home appliance market. Sub Co.'s net assets have a fair value of \$65,000,000, including a trademark valued at \$12,000,000 with an indefinite life (not amortized). Sub Co. operates as a **profit center** and sells two products: Refrigerators and Washers. Budgeted and actual data for Q1 2025:

Product	Budgeted Units	Actual Units	Budgeted CM	Actual CM	Allocated Fixed Costs
Refrigerators	6,000	5,500	\$300	\$320	\$900,000
Washers	3,000	3,500	\$200	\$190	\$600,000

Sub Co. serves two customer segments: Retail (60% of sales, high service costs) and Wholesale (40% of sales, low service costs). Sub Co.'s total assets are \$50,000,000, actual income is \$2,000,000, and the target return is 10%. Sub Co. uses a **Balanced Scorecard** with goals: increase sales revenue (Financial), increase customer satisfaction (Customer), reduce defects (Internal Process), and improve employee training (Learning and Growth). Calculate goodwill, prepare the consolidation journal entry under US GAAP, perform product and customer profitability

Product	Budgeted Units	Actual Units	Budgeted CM	Actual CM	Allocated Fixed Costs
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analyses, compute sales variances, calculate ROI and residual income, and discuss how these analyses and the Balanced Scorecard support post-acquisition performance evaluation and budgeting.

Solution:

1. Goodwill Calculation:

- Purchase price: \$75,000,000
- Fair value of net assets: \$65,000,000
- Goodwill = \$75,000,000 - \$65,000,000 = **\$10,000,000**

2. Consolidation Journal Entry (US GAAP):

3. Dr Assets (excluding trademark) 53,000,000

4. Dr Trademark 12,000,000

5. Dr Goodwill 10,000,000

6. Cr Cash 75,000,000

7. Product Profitability Analysis:

- **Refrigerators:**
 - Revenue = (5,500 $\times$ 320 = \$1,760,000)
 - Variable Costs = (5,500 $\times$ (320 - 300) = \$110,000)
 - Contribution Margin = (1,760,000 - 110,000 = \$1,650,000)
 - Net Profit = (1,650,000 - 900,000 = \$750,000)
- **Washers:**
 - Revenue = (3,500 $\times$ 190 = \$665,000)
 - Variable Costs = (3,500 $\times$ (190 - 200) = \$70,000)
 - Contribution Margin = (665,000 - 70,000 = \$595,000)
 - Net Profit = (595,000 - 600,000 = -\$5,000)
- **Analysis:** Refrigerators are highly profitable (\$750,000), but Washers incur a small loss (-\$5,000). Consider repricing Washers or improving cost efficiency, unless they are strategic for market presence.

8. Customer Profitability Analysis (Hypothetical Data):

- **Retail Segment** (60% of sales, \$1,323,000 revenue):

- Revenue = (0.6 $\times$ (1,760,000 + 665,000) = \$1,455,000)
- Costs = Product costs (60% of total variable and fixed costs) + high service costs (\$300,000, e.g., returns, support).
- Total Costs = (0.6 $\times$ (110,000 + 70,000 + 900,000 + 600,000) + 300,000 = 846,000 + 300,000 = \$1,146,000)
- Profit = (1,455,000 - 1,146,000 = \$309,000)

○ **Wholesale Segment** (40% of sales, \$970,000 revenue):

- Revenue = (0.4 $\times$ 2,425,000 = \$970,000)
- Costs = (0.4 $\times$ 1,680,000 + 100,000 (low service costs) = 672,000 + 100,000 = \$772,000)
- Profit = (970,000 - 772,000 = \$198,000)

- **Analysis:** Retail is more profitable (\$309,000) despite high service costs, but Wholesale's lower margin suggests potential for cost reduction or pricing adjustments.

9. Sales Variance Analysis:

○ **Total Sales Variance:**

- Actual Revenue = (1,760,000 + 665,000 = \$2,425,000)
- Static Budget Revenue = ((6,000 $\times$ 300) + (3,000 $\times$ 200) = 1,800,000 + 600,000 = \$2,400,000)
- Total Variance = (2,425,000 - 2,400,000 = \$25,000 F)

○ **Sales Price Variance:**

- Refrigerators: ((320 - 300) $\times$ 5,500 = 20 $\times$ 5,500 = \$110,000 F)
- Washers: ((190 - 200) $\times$ 3,500 = -10 $\times$ 3,500 = -\$35,000 U)
- Total Price Variance = (110,000 - 35,000 = \$75,000 F)

○ **Sales Volume Variance:**

- Refrigerators: ((5,500 - 6,000) $\times$ 300 = -500 $\times$ 300 = -\$150,000 U)
- Washers: ((3,500 - 3,000) $\times$ 200 = 500 $\times$ 200 = \$100,000 F)
- Total Volume Variance = (-150,000 + 100,000 = -\$50,000 U)

○ **Weighted Average Standard Price of Standard Mix (WASP_{SM}):**

- Standard Mix: Refrigerators = (6,000 $\div$ 9,000 = 0.6667), Washers = (3,000 $\div$ 9,000 = 0.3333)

- $(WASP_{SM}) = (0.6667 \times 300) + (0.3333 \times 200) = 200 + 66.66 = \266.66

- **Weighted Average Standard Price of Actual Mix ($WASP_{AM}$):**

- Actual Mix: Refrigerators = $(5,500 \div 9,000 = 0.6111)$, Washers = $(3,500 \div 9,000 = 0.3889)$
- $(WASP_{AM}) = (0.6111 \times 300) + (0.3889 \times 200) = 183.33 + 77.78 = \261.11

- **Sales Mix Variance:**

- Actual Quantity Total = $(5,500 + 3,500 = 9,000)$
- Mix Variance = $((261.11 - 266.66) \times 9,000 = -5.55 \times 9,000 \approx -\$49,950 \text{ U})$

- **Sales Quantity Variance:**

- Standard Quantity Total = $(6,000 + 3,000 = 9,000)$
- Quantity Variance = $((9,000 - 9,000) \times 266.66 = 0 \times 266.66 = \$0)$

- **Verification:** Total Volume Variance = Mix Variance + Quantity Variance = $(-49,950 + 0 \approx -\$50,000 \text{ U})$

- Total Sales Variance = Price Variance + Volume Variance = $(75,000 - 50,000 = \$25,000 \text{ F})$

10. Performance Measures:

- **ROI:**
[
 $\text{ROI} = \frac{\text{Income}}{\text{Assets}} = \frac{2,000,000}{50,000,000} = 4\%$
]
- **Residual Income:**
[
 $\text{RI} = 2,000,000 - (0.10 \times 50,000,000) = 2,000,000 - 5,000,000 = -\$3,000,000$
]

11. Strategic and Analysis Notes:

- **Product Profitability Analysis:** Refrigerators' high profitability (\$750,000) supports increased focus, while Washers' loss (-\$5,000) suggests repricing or cost reduction. This informs the **sales budget** and product mix strategy.
- **Customer Profitability Analysis:** Retail's higher profitability (\$309,000) justifies service investments, but Wholesale's lower margin (\$198,000) suggests cost optimization, guiding **customer segment strategies**.
- **Sales Variance Analysis:** The \$75,000 favorable price variance (driven by Refrigerators) indicates effective pricing, but the \$50,000 unfavorable volume

variance (due to Refrigerator shortfall and mix shift to Washers) suggests demand or marketing adjustments.

- **Balanced Scorecard:**

- **Financial:** Increasing sales revenue aligns with the \$25,000 favorable total sales variance, but Washer losses require action.
- **Customer:** Improving satisfaction can address volume shortfalls, especially for Refrigerators.
- **Internal Process:** Reducing defects and material costs can improve Washer profitability.
- **Learning and Growth:** Enhanced training supports customer service improvements, driving sales.

- **Performance Measures:** The 4% ROI and negative RI (-\$3,000,000) indicate Sub Co. is below the 10% target, prompting efficiency or asset optimization.

- **Post-Acquisition Performance Evaluation:** Product and customer profitability analyses guide resource allocation, sales variances inform pricing/marketing, and the Balanced Scorecard aligns Sub Co.'s operations with strategic goals. These tools support the **master budget** and **control** processes.

- **Consolidation:** Eliminate Sub Co.'s equity accounts. Goodwill and trademark are tested annually for impairment under US GAAP (trademark not amortized).

- **Strategic Alignment:** These analyses ensure Sub Co.'s product portfolio, customer strategy, and performance align with Parent Co.'s objective of profitable expansion in the home appliance market.